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## NONFERROUS METAL INDUSTRY REPORTS PROGRESS; SOME SET-BACKS NOTED

Numbers in parentheses refer to appended list of sources.

### MINE VENTILATION PROBLEMS UNSOLVED

A group of mine and trade union workers, in an open letter to the editor of Trud, report that the problem of underground ventilation in the mining industry has not yet been completely solved.

Even the most effective ventilation system cannot do away entirely with the harmful effects or dust directly in the stopes and in the operation of reloading the mined ore. Existing systems of dust collectors and devices for individual protection from dust are structurally imperfect and only slightly suitable.

Four years ago, a special commission, headed by Academician A. A. Skochinskiy, was organized in the Academy of Sciences USSR to study this problem. The commission created auxiliary commissions for work in outlaying districts. The commission's duties are to manage scientific work on combating dust formation and to prevent diseases connected with the effects of dust.

There has not yet been any evidence of the results of the 4 years of operation of this commission, and the problem has not been basically solved. well-known scientist, Academician Rebinder, has stated that if a specified quantity of scap-naphtha is added to the water in wet drilling, considerable effect is achieved, since the soap-naphtha helps to remove a substantial amount of the finer dust particles. The commission, however, has not attempted to prove this theory in industrial tests.

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The Sverdlovsk Institute of Labor Safety of the All-Union Central Council of Trade Unions is testing the effectiveness of wetting dust with water containing new additives. Tests have had outstanding results. But the members of the commission, including even Academician Rebinder, have not taken active part in this work.

Engineers Svyadoshch, Bogatov, and Miller have developed a combination ventilator and dust absorber, the test model of which has been tested at the Sokol'nyy Mine in Ridder, Vostochno-Kazakhstan Oblast, and at the Krivoy Rog Mine imeni Karl Libknekht with outstanding results. The commission has failed to show any interest in this work.

The Ministry of the Metallurgical Industry conducted a contest for the best proposal on methods of combating mine dust. Many proposals were turned in, but the commission has not yet studied them

On the other hand, the commission and its auxiliaries have considered many theoretical problems far removed from production practice. For example, the commission members have for a long time been studying the foreign practice of aluminotherapy, when it should have been obvious to them from the beginning that no serious contribution to miners' welfare could come from such sources. Practice has already proved that aluminotherapy is of no use whatever in combating industrial diseases.

The problem which must be solved include not only that of removing the dust by washing, but also those of finding methods of extracting and transporting ore with the least possible formation of dust and of improving individual protective measures. Practical aid is needed also in the drive against dust in surface enterprises, particularly in Dinas brick plants where the quartzite dust consists almost entirely of free silicon dioxides.(1)

#### KIRGIZ ORE LOSSES ABOVE NORM

V. Ogloblin, chief of the administration of the Frunze Mining Region, writes that an analysis of the work of mining enterprises in Kirgiz SSR has shown that in many mines little attention is given to the goal of decreasing ore losses in mining.

At the end of 1947, the State Mining Inspection was created by a decree of the Council of Ministers USSR. Its duties are to conserve resources, control exploitation of deposits, and combat losses in mining. In the majority of mining enterprises, it has become the practice to establish a norm for permissible exploitation losses along with the approval of the annual production plan. These planned norms are determined by actual loss data for each mine and usually constitute 15-20 percent of the reserves. However, the actual volume of losses in Kirgiz mining enterprises, particularly in the coal industry, considerably exceeds the planned norms. Only limited calculations of losses are made in even the best mines. An excess in losses over the norm is not considered inefficient, and the guilty parties are not made responsible for losses. Bookkeepers' records do not reflect either the large or the small losses.(2)

### KAZAKH INDUSTRY EXPANDS

The nonferrous metallurgy industry in Kazakhstan is the republic's leading branch of industy, and Kazakhstan is the chief base of the USSR for nonferrous metals production. In he Postwar Five-Year Plan, Kazakhstan takes third place in the USSR, after the RCFSR and the Ukraine, in the volume of capital investments.(3)

- 2 -

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#### COPPER INDUSTRY REPORTS IMPROVEMENTS

In 1950, workers at the Balkhash Copper-Smelting Plant, Karaganda Oblast. considerably improved their technical indexes. The volume of metal smelting is continually increasing and the general order of production is being improved. For a long time, however, the chief shortcoming of the plant had been the high cost of production, which reflected on the fulfillment of the entire production program. After an extensive campaign throughout the plant for economy of materials and fuel, results began to appear. The plant completed the 6-month plan ahead of schedule, and in the second quarter was able to exceed production plans as the result of a decrease in the copper content of the waste slags and of utilization of copper-bearing material. In June alone, consumption of electric power was cut by 400,000 kilowatt-hours more than required by the norm. In May, the plant saved almost one million rubles' worth of materials, fuel, and power, and these indexes have not been decreased since then. The above-plan accumlations of the plant now exceed 1,600,000 rubles.(4) Workers in the plant's metallurgical shop have been exceeding the monthly plans for smelting blister copper. A brigade operating one converter has increased the inter-repair period from 3 to 4 months by taking better care of the furnace. (5)

Copper produced at the Krasnoural'sk Copper-Smelting Plant is the cheapest copper produced in the Urals. All melts at the plant are high speed. The melting of the charge per square meter of furnace has been increased 25 percent and fuel consumption decreased 8 percent.(6)

In Armenian SSR, the Alaverdi Copper Plant fulfilled the July plan for blister copper 104.9 percent and for cathode copper 100.15 percent, while the water-jacket furnace division fulfilled the plan for melting of the charge by 101 percent. All other shops also successfully completed the July plans. The converter division is regularly fulfilling the daily blister-copper plans 110-115 percent.(7)

The Shamlug Mines in Armenia fulfilled the 7-month plan 100.3 percent for mining copper ore and 114.3 percent for mine development work, and exceeded the plan for metal content in the ore by 3.6 percent.(8)

The Zangezur Mine Administration (director, G. Kamtarzhyan) reports that great improvements have been made in the postwar period. In 1946, the administration had exceeded the 1945 copper-mining level by 6 percent, by 21 percent in 1947, 44 percent in 1948, and 79 percent in 1949. It expects to exceed the 1945 level by 113 percent in 1950. A corresponding increase in output of copper concentrates has been achieved. In 1950, labor productivity per worker increased 45 percent over 1945. Labor-consuming processes, including breaking down of the ore mass and haulage, have for the most part been completely mechanized. Hand drilling in horizontal workings has been eliminated by the use of pneumatic support columns with simultaneous use of wet drilling. This has increased drilling speed.

Mining methods have been considerably improved. In the "Kapital'naya shtol'nya" Mine and the Saralykhskiy Sector, the cutting of rooms in the shrinkage stopes
is no longer done from the level of the main haulage tunnel but from the sublevel
drifts which have been cut 4-6 meters above this tunnel. This measure has helped
to speed loading of ore, to improve operations in the haulage tunnel, and to introduce scraper loading of ore on a wider scale.

Despite these achievements, much remains to be done in the field of mechanization. The following measures must be adopted: introduction of scraper loading of ore and rock in advance workings, mechanization of timber hoisting in advancing vertical workings, use of loading machines, and introduction of core drilling. Mine No 7-10 is scheduled to adopt a mining method new to the administration. The new method includes the system of open rooms with removal of ore from the sublevel drifts, working of ore blocks between rooms by counterboring them with deep holes, using core drills and machines, and subsequent mass blasting of the blocks. (9)

- 3 -

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The administration's Mine No 5-6 (chief, G. Gevorkyan), which had been lagging for over a year, has finally improved its work. Whereas in the first quarter 1950 the mine completed only 84 percent of the plan for prospecting, 76 percent for breaking down the ore, 81.2 percent for mining the ore, and 90 percent for corper content in the ore, in July the plans for these types of work were completed 102-133 percent.

Organization of labor, one of the chief causes of the previous lag, was improved, with the result that in July, labor productivity of the face miners increased by 8-10 percent. In the first quarter, the chief bottleneck in the mine's operations was the low productivity of the haulers. In one shift, only 100 carloads of ore were hauled from the 40th level. Now, idleness of equipment has been eliminated, and twice as much ore is being hauled from the level. Introduction of technical improvements has made it possible to remove the ore through an ore chute, greatly increasing labor productivity and speeding the movement of ore to the flotation plant.

Electric power lines are to be installed throughout all the stopes and along the narrow-gauge line in the immediate future. Workshops for current repair jobs are being organized in some of the stopes. The mine has now exceeded all other mines and shops of the administration in its indexes for fulfillment of production plans.(10)

## ZINC, POLYMETALLIC ENTERPRISES EXCEED PLANS

The Ust'-Kamenogorsk Zinc Plant, Vostochno-Kazakhstan Oblast, took first place in the all-Union competition for the second quarter 1950 and won the Transferable Red Banner of the Council of Ministers. Equipment productivity at the plant is 50 percent above plan. Recovery of metal from ore also exceeds the plan. One of the plant's workers has developed a special metal hoist mechanism which is used in the electrolytic shop to lift the cathodes from the tanks. In all Soviet zinc plants, this process is done by hand. In Ust'-Kamenogorsk, this process has now been completely mechanized. Output of metal at the plant has increased 31.6 percent over July 1949 and labor productivity 83 percent.(11)

The complex organization of labor is being widely introduced in the Leninogorsk mines. At the Sokol'nyy and Leninogorsk mines, the number of complex brigades of miners has doubled since the beginning of the year. The work of complex brigades is conducted according to a strict schedule, and each shift does drilling, blasting, collects the ore, and timbers the stope. The complex organization of labor has helped miners to expand the stoping area and to use extensively the multistope method of drilling. Each brigade serves two or

In Taldy-Kurgan Oblast, Kazakh SSR, the Tekeli Mine has begun to adopt new methods of mining, such as deep drilling and dispersal of the drill holes according to the structure and hardness of the rock. The auxiliary shops of the mine, however, are not operating satisfactorily. The drill repair shop, for example, turns out poor work, the drills breaking down after a few minutes of work. Nothing has been done to eliminate loss of air in the main air line, with the result that the pressure is low and pneumatic machinery can be operated at only half capacity. Rozenblyum, Voronov, and Zobnin, directors of the mine, are at fault for not taking measures to combat these conditions.(11)

The Kimpersay Mines, Aktyubinsk Oblast, completed the 8-month plan ahead of schedule for mining ore and development work. The plan for stripping was considerably exceeded. The Vostochnyy Kimpersay Mine has produced much aboveplan ore toward the September plan.(11)

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Miners in the Sadon region, North Osetian ASSR, are steadily improving their production indexes. The 7-month gross-production plan was fulfilled 123.3 percent. The Verkhne-Zgidskiy Mine took the lead in the competition. In July, the mine's output of ore increased 71 percent over January 1950.(13)

BAUXITE MINES HOLD SPEED RECORD

The Severoural'sk Bauxite Mines, Sverdlovsk Oblast, have completed the Five-Year Plan for mining bauxite. In the postwar years, dozens of kilometers of underground horizontal workings have been cut through by high-speed methods.(14)

In April 1950, a brigade headed by Minzaripov, Laureate of the Stalin Prize, advanced 268.6 running meters along one face in Northern Mine No 3, achieving on some days a speed as high as 10.75 running meters. This is the highest speed achieved by any mine in the Ministry of the Metallurgical Industry. Minzaripov has changed previous views on the speed of advancing mine workings. Several years ago, the usual speed for advancing horizontal mine workings did not exceed 25-30 meters per month, whereas now, according to conditions set up for the all-Union competition of advancing brigades, the monthly speed of a worker in this profession in horizontal workings should be no less than 50 meters, and for the Severoural'sk workers, 80 meters per month. There are many followers of Minzaripov in the copper mines of the Urals and Kazakhstan and in the lead and zinc, tin, nickel, and iron mines of the Urals, but their achievements are still being introduced too slowly, particularly in the Krivoy Rog Iron Mines.

The decisive factor in Minzaripov's success is the utilization of complex mechanization in all labor-consuming mining processes. In use are heavy-duty drills and loading machines, electric locomotives for haulage, and modernized ventilation systems, all of which have been developed since the war in Soviet mine equipment and machine-building plants. A second important factor is the organization of labor according to the six-cycle-per-day schedule, with two cycles completed per shift. The duration of each cycle has been considerably reduced by the practice of intermingling of operations -- drilling and loading and drilling and timbering of the stopes. Every detail of the cycle is well thought out ahead of time.(15)

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- 1. Moscow, Trud, 15 Aug 50
- 2. Frunze, Sovetskaya Kirgiziya, 23 Jul 50
- 3. Yerevan, Kommunist, 18 Jun 50
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- 5 -

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13. Moscow, Krasnaya Zvezda, 25 Aug 50

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